AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1 to 15. (Canceled)

16. (Currently Amended) A method for forming a semiconductor nanocrystal pattern on a substrate, comprising the steps of (a) coating a substrate with a dispersion of semiconductor nanocrystals selected from the group consisting of CdS, CdSe, CdTe, ZnS, ZnSe, ZnTe, HgS, HgSe, HgTe, GaN, GaP, GaAs, InP, InAs, and mixtures thereof in an organic solvent, wherein said semiconductor nanocrystals are surface-coordinated with a compound containing a photosensitive functional group represented by Formula 1 below:

X-A-B (1)

wherein X is NC-, HOOC-, HRN-, POOOH-, RS- or RSS- (in which R is a hydrogen atom or a C_{1-10} saturated or unsaturated aliphatic hydrocarbon group); A is a direct bond, an aliphatic organic group, a phenylene group or a biphenylene group; and B is an organic group containing at least one carbon-carbon double bond, which may be substituted with at least one group selected from the group consisting of -CN, -COOH, halogen groups, C_{1-5} halogenated alkyl groups, amine groups, C_{6-15} aromatic hydrocarbon groups, and C_{6-12} aromatic hydrocarbon groups substituted with F, Cl, Br, a halogenated alkyl group, R'O- (in which R' is a hydrogen atom or a C_{1-5} alkyl group), -COOH, an amine group or $-NO_2$; (b) evaporating said organic

solvent to form a nanoparticle film on said substrate of said semiconductor nanocrystals in combination with said surface-coordinated compound containing a photosensitive group; (c) selectively exposing the film to light through a mask wherein a crosslinking reaction takes place resulting in a solubility difference between exposed and unexposed areas; and (d) developing the exposed film with the use of an organic solvent, a weakly acid or basic solution, or water.

17. (Previously Presented) The method according to claim 16, wherein the nanoparticle film of step (b) is dried at 30-100°C before the light exposure of step (c).

18. (Previously Presented) The method according to claim 16, wherein the nanoparticle film of step (b) is produced by dispersing the semiconductor nanocrystals, and coating the dispersion in step (a) onto a substrate by spin coating, dip coating, spray coating, or blade coating.

19. (Previously Presented) The method according to claim 18, wherein the organic solvent of step (a) further comprises a photoinitiator selected from a group consisting of acetophenone-, benzoin-, benzophenone- and thioxantone-based photo initiators.

20. (Previously Presented) The method according to claim 16, wherein the light exposure of step (c) is carried out at an exposure dose of 50~850 mJ/cm^2 through a photomask having a predetermined pattern.

21. (Previously Presented) The method according to claim 16, wherein the light exposure of step (c) is carried out using a light source having a wavelength range of 200-500 nm and an energy range of 100-800 W.

22-23. (Canceled)

24. (New) The method according to claim 16, wherein the aliphatic organic group in the moiety A of Formula 1 is a saturated aliphatic hydrocarbon group, an aliphatic ester group, an aliphatic amide group, an aliphatic oxycarbonyl group or an aliphatic ether group.

25. (New) The method according to claim 16, wherein the moiety B in Formula 1 is an organic group represented by Formula 2 below:

$$-CR_1=CR_2\,R_3 \qquad (2)$$

where R_1 is a hydrogen atom, -COOH, a halogen group, a C_{1-5} alkyl group or a halogenated alkyl group; and R_2 and R_3 are each independently a hydrogen atom, a C_{1-30} alkyl group, -CN, -COOH, a halogen group, a C_{1-5} halogenated alkyl group, a C_{2-30} unsaturated aliphatic hydrocarbon group containing at least one carbon-carbon double bond, a C_{6-12} aromatic hydrocarbon group substituted or unsubstituted with F, Cl, Br, hydroxyl, a C_{1-5} halogenated alkyl group, an amine group, R'O-, in which R' is a C_{1-5} alkyl group, -COOH or $-NO_2$.

26. (New) The method according to claim 16, wherein the photosensitive compound is selected from the group consisting of acrylic acid compounds, unsaturated fatty acid compounds, cinnamic acid compounds, vinylbenzoic acid compounds, acrylonitrile-based compounds, unsaturated nitrile-based compounds, unsaturated amine compounds and unsaturated sulfide compounds.

27. (New) The method according to claim 16, wherein the photosensitive compound is selected from a group consisting of methacrylic acid, crotonic acid, vinylacetic acid, tiglic acid, 3,3-dimethylacrylic acid, trans-2-pentenoic acid, 4-pentenoic acid, trans-2-methyl-2-pentenoic acid, 2,2-dimethyl-4-pentenoic acid, trans-2-hexenoic acid, trans-3-hexenoic acid, 2-ethyl-2-hexenoic acid, 6-heptenoic acid, 2-octenoic acid, citronellic acid, undecylenic acid, myristoleic acid, palmitoleic acid, oleic acid, elaidic acid, cis-11-elcosenoic acid, euric acid, nervonic acid, trans-2,4-pentadienoic acid, 2,4-hexadienoic acid, 2,6-heptadienoic acid, geranic acid, linoleic acid, 11,14-eicosadienoic acid, cis-8,11,14-eicosatrienoic acid, arachidonic acid, cis-5,8,11,14,17-eicosapentaenoic acid, cis-4,7,10,13,16,19-docosahexaenoic acid, fumaric acid, maleic acid, itaconic acid, ciraconic acid, mesaconic acid, trans-glutaconic acid, trans-beta-hydromuconic acid, trans-traumatic acid, trans-muconic acid, cis-aconitic acid, trans-aconitic acid, cis-3-chloroacrylic acid, trans-3-chloroacrylic acid, 2-bromoacrylic acid, 2-(trifluoromethyl)acrylic acid, trans-styrylacetic acid, trans-cinnamic acid, α-methylcinnamic acid, 2-methylcinnamic acid, 2-fluorocinnamic acid, 2-(trifluoromethyl)cinnamic acid, 2-chlorocinnamic acid, 2-methoxycinnamic acid, 2-hydroxycinnamic acid, 2-nitrocinnamic acid, 2-carboxycinnamic acid, trans-3-fluorocinnamic acid, 3-(trifluoromethyl)cinnamic acid,

3-chlorocinnamic acid, 3-bromocinnamic acid, 3-methoxycinnamic acid, 3-hydroxycinnamic acid, 3-nitrocinnamic acid, 4-methylcinnamic acid, 4-fluorocinnamic acid, trans-4-(trifluoromethyl)-cinnamic acid, 4-chlorocinnamic acid, 4-bromocinnamic acid, 4-methoxycinnamic acid, 4-hydroxycinnamic acid, 4-nitrocinnamic acid, 3,3-dimethoxycinnamic acid, 4-vinylbenzoic acid, allyl methyl sulfide, allyl disulfide, diallyl amine, oleylamine, 3-amino-1-propanol vinyl ether, 4-chlorocinnamonitrile, 4-methoxycinnamonitrile, 3,4-dimethoxycinnamonitrile, 4-dimethylaminocinnamonitrile, acrylonitrile, allyl cyanide, crotononitrile, methacrylonitrile, cis-2-pentenenitrile, trans-3-pentenenitrile, 3,7-dimethyl-2,6-octadienenitrile and 1,4-dicyano-2-butene.

28. (New) The method according to claim 16, wherein the semiconductor nanocrystal comprises at least two compounds selected from the group consisting of CdS, CdSe, CdTe, ZnS, ZnSe, ZnTe, HgS, HgSe, HgTe, GaN, GaP, GaAs, InP and InAs, and is a uniformly mixed type, gradiently mixed type, core shell type or ally type.

29. (New) A method of forming a semiconductor nanocrystal pattern on a substrate, comprising the steps of (a) coating a substrate with a dispersion semiconductor nanocrystals selected from the group consisting of CdTe, ZnS, ZnSe, ZnTe, HgS, HgSe, HgTe, GaN, GaP, GaAs, InP and InAs, and mixtures thereof in an organic solvent, wherein said semiconductor nanocrystals are surface-coordinated with a compound containing a photosensitive functional group; (b) evaporating said organic solvent to form a nanoparticle film on said substrate of said semiconductor

nanocrystals in combination with said surface-coordinated compound containing a photosensitive group; (c) selectively exposing the film to light at an exposure dose of 50-850 mJ/cm2 through a photomask having a predetermined pattern wherein a cross-linking reaction takes place resulting in a solubility difference between exposed and unexposed areas; and (d) developing the exposed film with the use of an organic solvent, a weakly acid or basic solution, or water.

30. (New) A method for forming a semiconductor nanocrystal pattern on a substrate, comprising the steps of (a) coating a substrate with a dispersion of semiconductor nanocrystals selected from the group consisting of CdTe, ZnS, ZnSe, ZnTe, HgS, HgSe, HgTe, GaN, GaP, GaAs, InP and InAs, and mixtures thereof in an organic solvent, wherein said semiconductor nanocrystals are surface-coordinated with a compound containing a photosensitive functional group; (b) evaporating said organic solvent to form a nanoparticle film on said substrate of said semiconductor nanocrystals in combination with said surface-coordinated compound containing a photosensitive group; (c) selectively exposing the film to light using a light source having a wavelength range of 200-500 nm and an energy range of 100-800W through a mask wherein a cross-linking reaction takes place resulting in a solubility difference between exposed and unexposed areas; and (d) developing the exposed film with the use of an organic solvent, a weakly acid or basic solution, or water.